Service Bulletin

Date: September 2009 Subject: Front Gear Case and Front Drive Shaft

Model: Thundercat MY 2008

Bulletin Nr.: 03-2009

Model / Model Year:

Thundercat H2 MY 2008

Chassis number:
control:

- **4UF08ATV48T2#####**
- **4UF08ATV58T2#####**
- **4UF08ATV68T8#####**
- **4UF08ATVX8T2#####**

Within this Service Bulletin the front differential has to be changed on the Arctic Cat Thundercats mentioned above. Arctic Cat gives you the chance to increase the value of your Thundercat or the Thundercat of your costumers from MY 2008 to the current Standards of MY 2010. The front drive shaft and the U-Joint cross have to be changed as well.

Rebuilding range: Change the front differential by using the conversion kit (front differential) p/n 1502-281. Mount the new front drive shaft 1502-342.

Dringlichkeit: low (within the next service interval)

Material:

1. Conversion kit front diferential, p/n 1502-281
2. Short front drive shaft, p/n 1502-342
3. U-Joint, p/n 1502-325
4. U-Joint cross, p/n 0402-944

(see fig. 1a and fig. 1b on page 2)

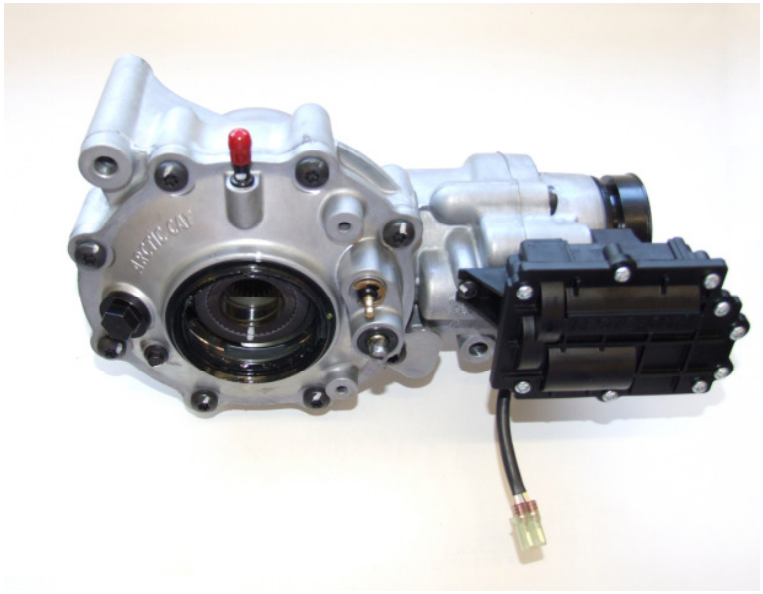

Fig. 1a: Thundercat Front Gear Case

Fig. 1b: U-Joint cross, U-Joint and drive shaft short

Procedur:

ATTENTION: Switch off the ignition before beginning with the Service Bulletin (Off Position) and disconnect the battery (see Service Manual Arctic Cat 2009, PN 2258-379, page 5-3) and the engine and exhaust pipe have to be cold (risk of getting burned).

Demount:

1.) Lift the vehicle to allow the front wheels to be removed. Make sure that the vehicle cannot overturn or move.

Remove the front wheels by using the Service Manual 2009, p/n 2258-379, page 7-7, chapter "Wheels and Tires".

Advise: Using the Arctic Cat Service Manual 2009 (p/n 2258-379) is compulsory for all the following working steps.

Removing the front differential is described in the Service Manual 2009, p/n 2258-379, on page 6-3, chapter "Removing Differential".

2.) Remove the oil drain screw (see Fig.. 2 on page 4) from the front differential case and the fill-up plug. Make sure that the gear oil is disposed of as instructed by the environmental regulation.

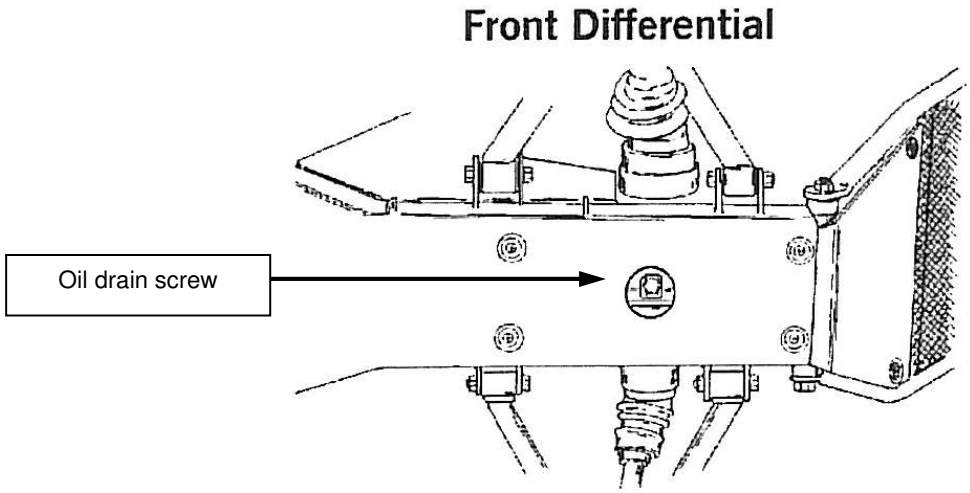

Fig. 2: oil drain screw front differential

3.) Use the Service Manual 2009, 2258-379, page 7-3, chapter "Front Arms" and the work specifications below for the following working steps.

Remove the cotter pins (see fig. 3 on page 4 and fig. 4 on page 5) from the front wheel hub left and right. Loosen the castle nuts.

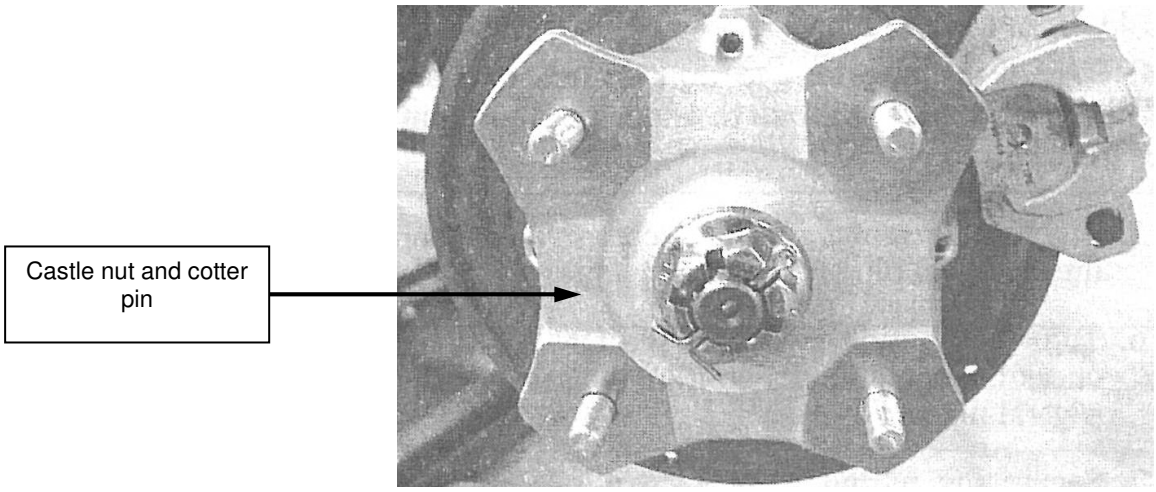

Fig. 3: castle nut with cotter pin

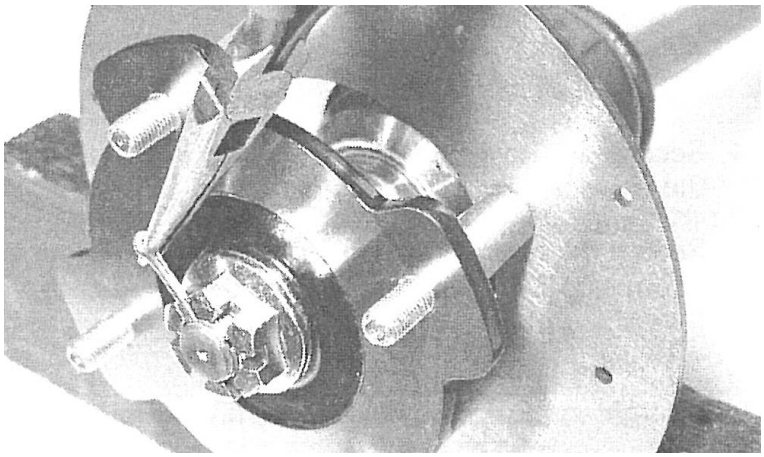

Fig. 4: Removing of cotter pin

Demount the brake callipers (see fig. 5 on page 5). Make sure that the brake hose is not cracked.

Attention: Support the brake calliper; do not let it hang on the brake hose. (Strain relief)

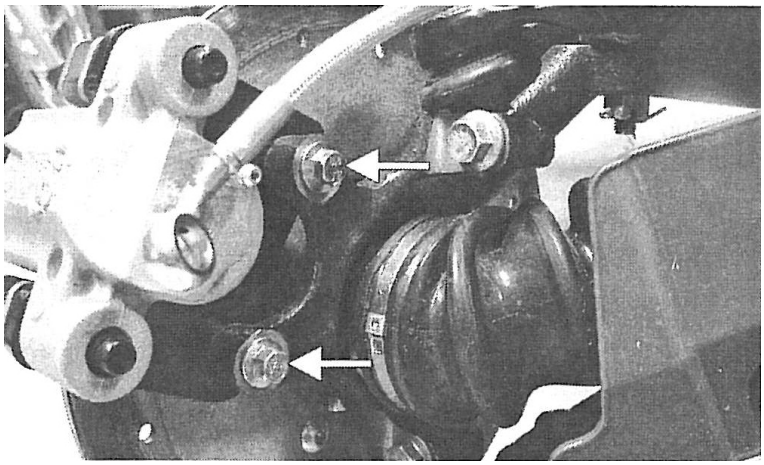

Fig. 5: Screwing of Brake Calliper

Remove the wheel hubs and the brake discs.

Remove the cotter pins of the lock nuts for the tie rods. Loosen the castle nuts and swing the tie rods aside (Fig. 6 and 7 on page 6).

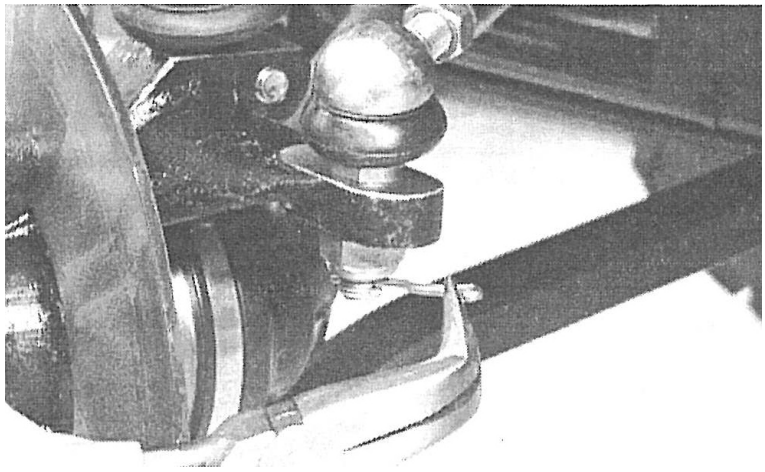

Fig. 6: Removing of cotter pins for tie rod

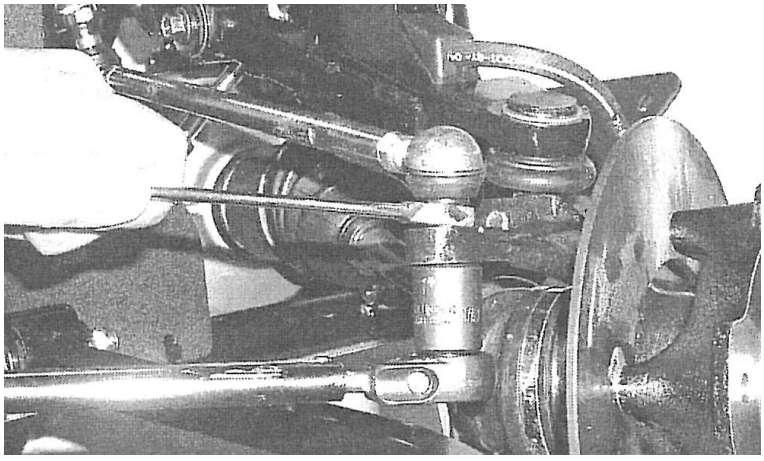

Fig. 7: Loosening the tie rod screwing

Remove the ball joint screwing from the knuckles. (see fig. 8).

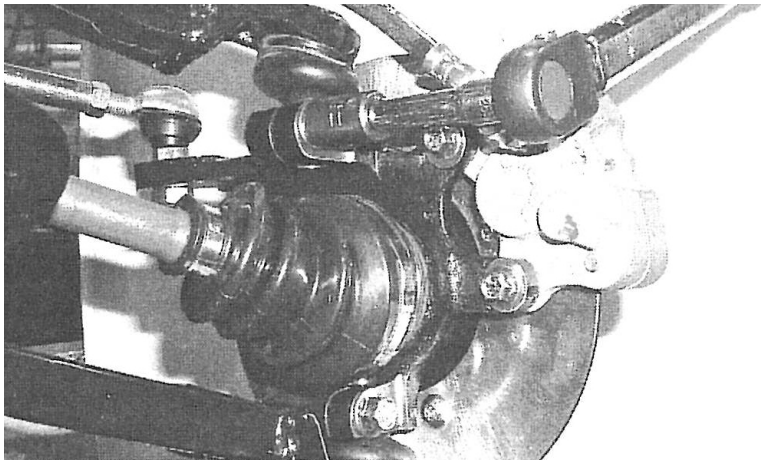

Fig. 8: Loosening the ball joint screwing

Swing the upper and lower A-Arm out of the knuckles. Remove the screws from the shock absorber on the upper knuckle. (see Service Manual 2009, 2258-379, page 7-2, chapter „Shock Absorber“).

Separate the knuckles from the front axle drive shaft. (see fig. 9). See Service Manual 2009, 2258-379, page 6-4, „Removing Differential“, chapter 10 – 13.

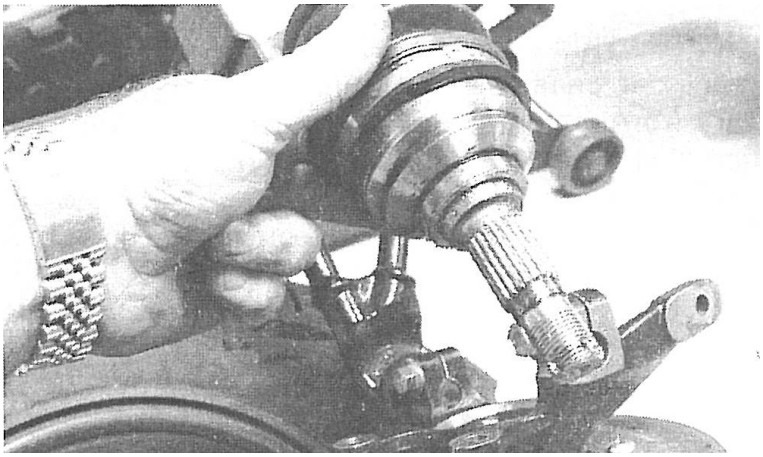

Fig. 9: Demounting Axle

Attention: Put the front axle drive shaft horizontally to the front differential. Protect the axle from falling down because a too high angle of the front axle drive shaft may lead to irreparable damages. Make sure that the upper and lower A-Arms don't fall down. Risk of injury and/or damage. Secure the loosened shock absorbers.

4.) Remove the screwing of the lower and upper A-Arms and demount them.

Advise: You need an Arctic Cat Special Tool for the following working step. „Slide Hammer“ the p/n is 0444-225.

Remove the front axle drive shaft from the front axle case by using the special tool “Slide Hammer”. (see fig. 10, page 8).

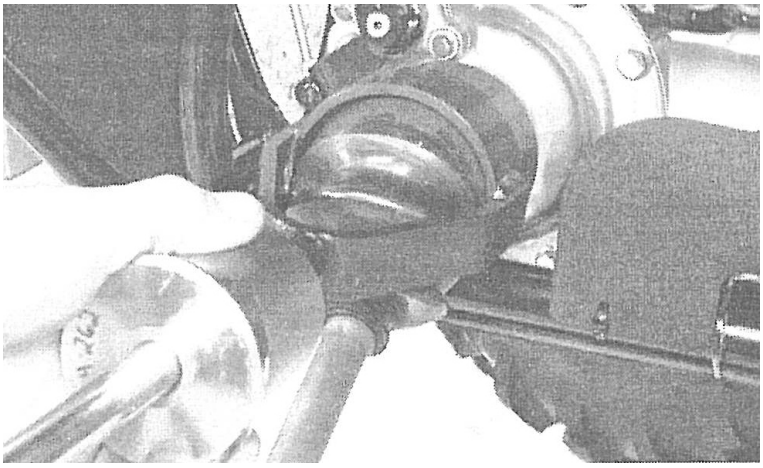

Fig. 10: Demounting the front axle drive shaft

Hinweis: Pay attention on the right position of the special tool. Using it in a wrong way may cause damage to the vehicle itself, the axle, the front differential case and the axle boot

5.) Demount the 2WD / 4WD switch unit (see Service Manual 2009, p/n 2258-379, page 6-5, chapter 17 and following). Disconnect the connectors. Demount the operation of the front differential lock.

Remove the aeration of the front differential case.

Loosen and remove the screwing of the front differential case. Make sure that the front differential case does not fall onto lower crossbar.

Move the front differential case forward in the direction of the radiator assembly. You can now remove it sideways from the short axle drive shaft between engine and front differential.

Turn the front differential case by 90° (see fig. 11 on page 9).

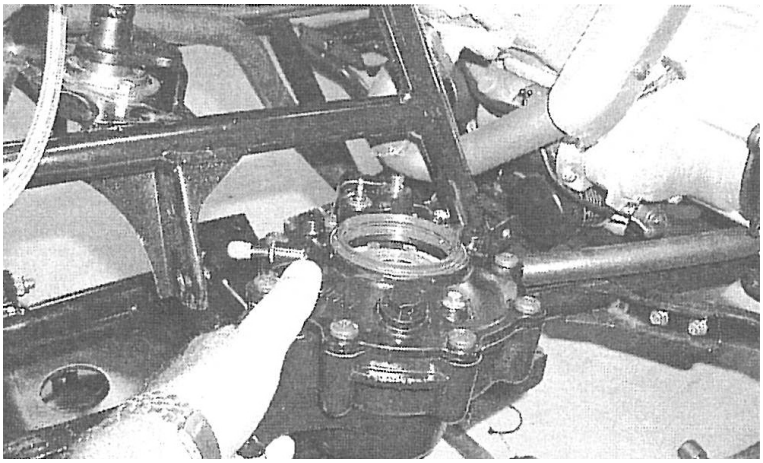

Fig. 11: Demounting Front Gear Case

6.) Replace the removed front differential (Front Gear Case ASSY) with the front differential from the conversion kit.

Advise: You need an Arctic Cat Special Tool for the following working step. The special tool „U-Joint Separator Tool“ with the p/n 0444-225.

7.) For demounting the short drive shaft the front U-Joint cross has to be removed. Remove the securing clips for this working step (see fig. 12).

Fig. 12: Removing the securing clips

Demount the U-Joint cross after removing all the securing clips by using the special tool „U-Joint Separator Tool“.

Loosen and remove the castle securing nut of the front U-Joint. (see fig.. 13).

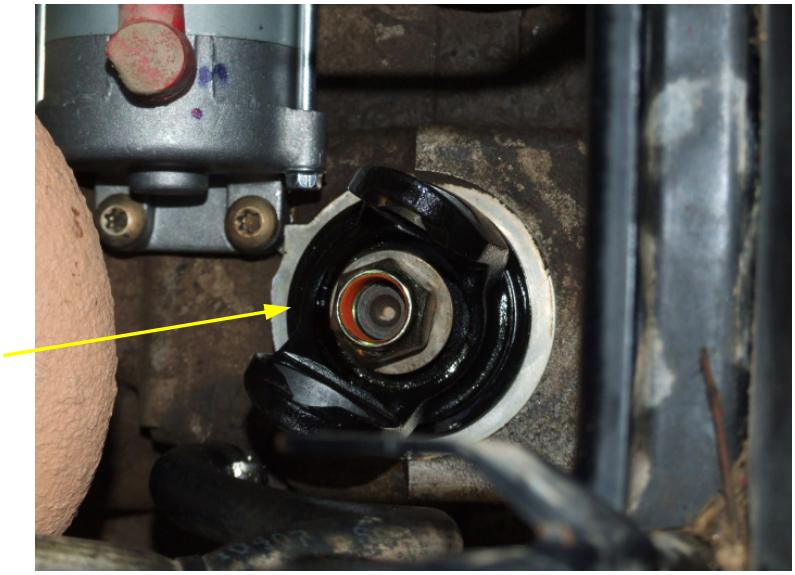

Fig. 13: castle nut front U-Joint

8.) Change the demounted U-Joint with the U-Joint from the conversion kit.

9.) Start to mount the parts in reversed order.

10.) Please use the torques from the table below or from the Service Manual 2009, p/n 2258-379.

11.) Fill the front differential with the front differential oil supplied by Arctic Cat to the filling level (as required) after assembling (see Service Manual 2009, p/n 2258-379, pages 1-2, pages 2-10).

Tightening torque table		
Part	**Part bolted with**	**torque** [Nm]
Tie rod end	knuckle	41
Brake calliper	knuckle	27
A-Arm	frame	68
Knuckle	ball joint knuckle	47
Shock absorber	upper A-Arm	47
Front differential case	frame	52
Wheel hub castle nut	axle	max. 272
Oil drain screw front differential case	Front differential case	5
Fill-up plug screwing front differential case	front differential case	22
Output yoke nut	Driven output shaft	100

warning
Please only use original Arctic Cat spare parts/fixings for the assembling. Always use undamaged / not deformed securing pins for the securing screwing, which should be correct to the designated borehole and fitting length. For mounting the brake callipers use new screws. If you reuse the demounted screws from the brake callipers you have to use “Loctite” for securing them. Pay attention to the existence of screw securing means when using new screws.

Advise: Note the Service Bulletin in the service booklet of the ATV.

Refund: After completion of this work, please send a warranty claim containing a working time of 108 min and the p/n of the conversion kit. Please submit a separate claim for each repaired vehicle.

ACHTUNG: Only completely filled out warranty claims can be accepted.

If you do not send back the old party, we won't accept the warranty claim.

Submit the warranty claim and the parts within 30 days after completing the service bulletin to Arctic Cat. Warranty Claims which are submitted later will be rejected.

Advise
The dealer is responsible for assuring that the necessary service for all concerned ATVs is accomplished according to the instructions which are enclosed in this message. This service must be accomplished before handing out a concerned ATV to a customer.